REMARKS

Claims 1-12 are pending in the application. Claims 3 and 12 have been canceled. New claim 13 has been added.

The specification has been objected to in the Office Action due to informalities. The Office Action requests disclosure of the patent numbers of the patents referred to in the Background section. Applicants believe that an objection for not disclosing patent numbers in the specification is improper. Nonetheless, Applicants have amended the specification to include the requested patent numbers. Please see amended specification paragraphs on page 2 of this response.

The Office Action rejects claim 1 under 35 U.S.C. § 112, first paragraph, because the terms "diisopropyl xanthogen" and "xanthogen sulfide" were not described in such a way as to enable one skilled in the art to make and use the invention and because the use of the word "plus" is unclear. Claim 1 has been amended to eliminate references to diisopropyl xanthogen, xanthogen sulfide and the term "plus."

The Office Action rejects claim 6 under 35 U.S.C. § 112, first paragraph as not disclosing the best mode contemplated by the inventor. This rejection is incorrect. The requirement of 35 U.S.C. § 112, first paragraph is that "the *specification*... shall set forth the best mode contemplated by the inventor of carrying out his invention." (emphasis added) It does not require that any claim communicate the best mode. As more fully described in the MPEP, the best mode must be disclosed somewhere in the written description. MPEP § 2165. The best mode is disclosed in the specification of this application and claim 6 complies with the requirements of 35 U.S.C. § 112, first paragraph. See MPEP 2165.03 ("The information that is necessary for a rejection to form the basis for a rejection based on the failure to set forth the best mode is rarely accessible to the examiner...").

The Office Action further rejects claims 1, 6, 8-10 and 12 as indefinite under 35 U.S.C. § 112, second paragraph. The Office Action states that the terms "second compound" and "plus" are indefinite. Claims 1, 6, and 8-10 have been amended to eliminate the use of the terms "first compound" and "second compound" and claim 1 has been amended to eliminate use of the term "plus" to resolve any issues of indefiniteness. Further, claim 12 has been canceled.

The Office Action further states that claim 6 is indefinite because it lacks antecedent basis. Claims 1 and 6 have been amended to eliminate reference to a "second compound." The Office Action rejects claim 8 as indefinite because the use of the word "range" is indefinite when only a single value is claimed. Claim 8 has been amended to remove the word "range." Claims 9 and 10 are also rejected as indefinite under 35 U.S.C. § 112, second paragraph because of the use of the term "second compound." Claims 9 and 10 have been amended and no longer make reference to first and second compounds.

The Office Action also rejects claim 1 as indefinite because the terms "diisopropyl xanthogen" and "xanthogen sulfide" are broad. This rejection is incorrect; the MPEP specifically states that "[b]readth is not to be equated with indefiniteness." MPEP 2172.04 (citing *In re Miller*, 441 F.2d 689 (CCPA 1971)). Claim 1, however, has been amended and the terms dissopropyl xanthogen and xanthogen sulfide have been removed. The Office Action also states that claim 1 is indefinite because the claim should set forth the purpose and structure necessary for the "article" described in claim 1. The Office Action gives no support for this rejection. This rejection is improper. The MPEP states that rejection for indefiniteness is incorrect in this instance because "[a] claim to a chemical compound is not indefinite merely because a structure is not presented." MPEP 2173.05(t).

The Office Action further rejects claims 1-5 and 9-12 of the application under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,254,635 to Stevenson et al. ("Stevenson '635").

First, the Office Action rejects claim 1 as anticipated because Stevenson '635 discloses a rubber curing compound including polyisoprene latex, sulfur, a thiuram compound and dihydrocarbyl xanthogen polysulfides. It also states that the terms "diisopropyl xanthogen" and "xanthogen sulfide" are disclosed in the Stevenson '635 patent. This rejection, however, is improper. To anticipate a claim, the reference must teach every element of the claim. MPEP § 2131. The Stevenson '635 reference does not teach all the elements of Applicants' claimed invention.

Stevenson '635 teaches the combination of dry rubber, sulfur, a thiuram and a xanthogen. See Stevenson '635, examples 5-13. Stevenson '635 also teaches the combination of liquid latex, a thiuram and a xanthogen. See Stevenson '635, claim 2. Stevenson '635 does not teach the combination of liquid latex, sulfur, a thiuram and a xanthogen (the claimed invention). To anticipate a claim, a printed publication must

"describe all of the elements of the claims, arranged as in the patented device." *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1349 (Fed. Cir. 1998). The Federal Circuit upheld a District Court that had instructed the jury that

> "there is no anticipation 'unless all of the same elements are found in exactly the same situation and united in the same way ... in a single prior art reference'."

Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888 (Fed. Cir. 1984). Likewise, the Stevenson '635 reference does not teach the four elements that, in combination, make up the invention of the instant application. Consequently, Stevenson '635 does not anticipate Applicants' invention, because all of the same elements of the instant invention are not found in exactly the same situation and united in the same way in Stevenson '635.

Stevenson '635 does not teach the combination of a liquid latex emulsion, sulfur, a thiuram compound and a xanthogen compound in the claims. Claim 1 of Stevenson '635 discloses a compound of rubber, a thiuram and a xanthogen compound. It does not disclose sulfur, explicitly stating that it is a sulfur free composition. Col. 7, line 47. Claim 2 of Stevenson '635 discloses the compound of claim 1 with the rubber in the form of latex. Col. 8, lines 14-15. However, although claim 2 discloses latex, sulfur is still missing, leaving a disclosure of only latex, a thiuram and a xanthogen compound. The Stevenson '635 reference does not teach all the elements of Applicants' invention, and therefore does not anticipate the invention of this application.

The Stevenson '635 disclosure of dry rubber in combination with a sulfur, a thiuram and a xanthogen does not teach or suggest a liquid latex in combination with sulfur, a thiuram, and a xanthogen. For this reason the Stevenson '635 patent does not anticipate Applicants' invention. Dry rubber differs chemically from a liquid latex emulsion. *The Vulcanization of Rubbers*, www.bouncing-balls.com/science/ vulcanization.htm (reference attached). First, vulcanized latex uses a system of cross-linked elastomer chains within the liquid latex particles. When these particles dry, the loose ends of the elastomers grip one another to hold the latex particles together. Near room temperature, and slightly above, the vulcanization process then continues to create sulfur-sulfur bonds in the polysulfidic crosslinks. Dry rubber, on the other hand, is compounded in a mill or Banbury mixer. Once dry rubber has been compounded, the elastomer chains are largely not intact. Dry rubber then requires the slow addition of curing compounds and high heat to vulcanize the rubber.

Dry rubber products are formed by molding the rubber into the form of the article, while liquid latex is used for dipping, producing thin layers of latex to create a flexible latex article. Additionally, as stated above, dry rubber has a different chemical makeup from liquid latex, resulting in different chemical properties and elasticity. Viewing these differences between dry rubber and liquid latex it is obvious that liquid latex is not inherent in the use of dry rubber.

The Stevenson '635 reference itself recognizes the fact that dry rubber and liquid latex are chemically dissimilar. Not only are dry rubber and liquid latex different in composition, but the cure process is different on comparison. As Stevenson '635 states: "The temperature of vulcanisation of a dry rubber composition is preferably at least 130° C, e.g. 140° to 180° C." (col. 4, lines 37-39). On the other hand, Stevenson '635 also states: "The vulcanisation temperature is usually 35° to 100° C for a latex." (col. 4, lines 39-40). Therefore, dry rubber requires high temperatures to vulcanize, while liquid latex vulcanizes at significantly reduced temperatures.

These significant differences, namely the dissimilarity in composition and vulcanization temperatures, between dry rubber and liquid latex reveal the inherent contrast between the two compounds. Further, the Stevenson '635 reference teaches the use of latex only with a sulfur-free cure package. These differences prevent the Stevenson '635 patent from anticipating the claimed invention because Stevenson '635 fails to combine liquid latex with sulfur, a thiuram compound and a xanthogen compound either explicitly or inherently.

For the reasons stated above, the claimed invention is not anticipated by the Stevenson '635 patent. All other pending claims depend from claim 1 and are therefore also not anticipated.

The Office Action argues that claims 2, 4, and 5 are anticipated because the Stevenson '635 patent discloses the thiuram compound as tetrabenzyl thiuram disulfide in an amount that covers the range and amount in claims 4 and 5. As stated above, claims 2, 4 and 5 depend from claim 1, which is not anticipated by the Stevenson '635 reference because there is a missing element in the reference.

The Office Action rejects claim 3 as anticipated by Stevenson '635 because said reference discloses the use of natural rubber or synthetic polyisoprene. The Office Action

states that synthetic polyisoprene is available as cis-1,4-polyisoprene, as claimed in claim 3. Claim 3 has been canceled.

The Office Action rejects claims 9 and 10 as anticipated because Stevenson '635 teaches the range of xanthogen compound disclosed in claims 9 and 10. As stated above, this rejection is improper because these dependent claims include all of the limitations of independent claim 1, which is not anticipated by the Stevenson '635 reference.

The Office Action rejects claim 11, stating that the Stevenson '635 teaches an article intended for skin contact and that the material is shaped into contraceptives. As stated above, this rejection is improper because claim 11 includes all of the limitations of independent claim 1, which is not anticipated by the Stevenson '635 reference.

The Office Action further rejects claims 6-8 as obvious under 35 U.S.C. § 103(a). The Office Action alleges that Stevenson '635 discloses dithiocarbamates as commonly used accelerators and curing agents for rubber but that Stevenson '635 fails to teach the use of zinc dibenzyldithiocarbamate as a curing agent. The Office Action alleges that U.S. Patent No. 4,695,609 to Stevenson ("Stevenson '609") teaches the use of zinc dibenzyldithiocarbamate as a latex additive. The Office Action states that one of ordinary skill in the art would use the zinc dibenzyldithiocarbamate of the Stevenson '609 as a curing agent to arrive at claim 6 considering the statement in Stevenson '635 that dithiocarbamates are commonly used as accelerators and curing agents for rubber. The Office Action further contends that claims 7 and 8 are obvious in view of Stevenson '609 because said reference discloses 0.2 parts zinc dibenzyldithiocarbamate per 100 parts latex. Claims 7 and 8 claim a range of 0.3-0.5 parts zinc dibenzyldithiocarbamate per 100 parts polyisoprene.

The Stevenson '635 teaches away from the use of sulfur in the cure package for a liquid latex, and thus cannot be construed to render the present claims obvious. The Stevenson '635 patent shows significant loss of elongation in examples containing sulfur, a thiuram and a xanthogen (examples 8, 12 and 13 in Table 1). Example 4 (in Table 1) in Stevenson '635, however, containing a thiuram and a xanthogen without any sulfur, shows minimal loss of elongation on aging. The range of elongation loss on aging for examples 8, 12 and 13 is between 110% and 340%, averaging 203%. Meanwhile, the loss of elongation for example 4 on aging is only 55%. Stevenson '635 clearly teaches that articles made from dry rubber compounds containing sulfur in combination with a thiuram and a xanthogen lose their elasticity and become brittle on the shelf. Stevenson '635 thus teaches away from

the use of sulfur with a thiuram and a xanthogen in a cure package and as a result does not render obvious Applicants' invention, which uses sulfur in combination with a liquid polyisoprene emulsion, a thiuram and a xanthogen. Additionally, Stevenson '635 cannot be properly combined with Stevenson '609 to render claims 7-8 obvious since Stevenson '635 teaches away from a required element of the present invention, namely sulfur. It is improper to combine references where the references teach away from their combination. MPEP 2145.X.D.2. Since Stevenson '609 and Stevenson '635 are not properly combinable, the obviousness rejections should be removed.

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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Date: March 19, 2003

CERTIFICATE OF MAILING

I hereby certify that this RESPONSE TO OFFICE ACTION (along with any documents referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231.

Date: March 19, 2003 J. Mikitiuk

CH01/12279298.2